Nota lepid. 12 (1) : 65-82 ; 30.IV.1989 ISSN 0342-7536

Taxonomical notes on the genus *Victrix* STAUDINGER, 1879 (Lepidoptera : Noctuidae). I. The description of a new subgenus, two new species and a new subspecies

Z. VARGA* and L. RONKAY**

* Zoological Institute, Lajos Kossuth University, Egyetem tér 1, H-4040 Debrecen, Hungary.
** Hungarian Natural History Museum, Department of Zoology, Baross u. 13, H-1088 Budapest, Hungary.

Summary

The genus *Victrix* STAUDINGER, 1879 is redescribed and revised at the subgeneric level. *Christophia* subgen. n., *Victrix* (*Victrix*) *artaxias* sp. n., *Victrix* (*Poliobrya*) *fabiani* sp. n. and *Victrix* (*Victrix*) *karsiana lithoxys* ssp. n. are described. *Moureia* ORFILA & ROSSI, 1956 and *Poliobrya* HAMPSON, 1908 are reduced to subgeneric status. The poorly known species *Victrix* (*Victrix*) *gracilis* (WAGNER, 1931) is redescribed and a neotype designated.

Zusammenfassung

Das Genus *Victrix* STAUDINGER, 1879 wird auf dem subgenerischen Niveau neu beschrieben und revidiert. *Christophia* subgen. n., *Victrix* (*Victrix*) *artaxias* sp. n., *Victrix* (*Poliobrya*) *fabiani* sp. n. und *Victrix* (*Victrix*) *karsiana lithoxys* ssp. n. werden beschrieben. *Moureia* ORFILA & ROSSI, 1956 und *Poliobrya* HAMPSON, 1908 werden auf das subgenerische Niveau herabgesetzt. Die wenig bekannte Art *Victrix* (*Victrix*) *gracilis* (WAGNER, 1931) wird neu beschrieben und ein Neotypus bestimmt.

Introduction

The genus *Victrix* STAUDINGER, 1879 was originally described for a peculiar species, *karsiana*, described in the same paper. Over the years, several species have been placed in this genus, mainly based on external characters, especially the reduced proboscis. However, this genus has clearly become heterogenous ; the species may however be formed into groups, to which we give below subgeneric status. These subgenera appear to be more or less closely related to some subgenera (mostly East Asiatic) of the genus *Cryphia* HÜBNER, 1818 (s. l.). The present generic position of many of these seems questionable. These problems can only be solved when a full generic revision of the tribe Cryphiini is undertaken.

The present paper characterizes the different groups of species of the genus *Victrix*, including the taxa of *Moureia* ORFILA & ROSSI, 1956 and *Poliobrya* HAMPSON, 1908, based on external and genitalic morphology. In part II, the species placed in *Christophia* subgen. n. will be revised.

Victrix STAUDINGER, 1879

Horae soc. ent. Ross. 14: 490-491
Type species: *Victrix karsiana* STAUDINGER, 1879, by original designation (monotypy).

DAIGNOSIS: *Cryphia*-like noctuids of medium or small size. Frons convex with more or less conical, short protuberance. Palpi with club-like, short terminal joint. Antennae moderately long, bipectinate or ciliate in males, filiform in females. Proboscis either very short, weakly sclerotized, or absent. Abdomen slender, usually without dorsal crest. Forewing large, triangular, apex often elongate. Hindwing rounded, sometimes rather broad, often with silky sheen. Scales relatively large, their surface strongly reticulate, causing the ground colour to appear irrorated.

MALE GENITALIA: Relatively simple. Uncus moderately long, strong, medially broader. Tegumen weakly sclerotized, valva slender with continuously fused transtilla. Cucullus and corona reduced, distal end of valva rounded or pointed. Harpe often strong, falcate, sometimes short and wide, can also be entirely absent (*Poliobrya*). Basal structure of harpe usually elongate, like a walking-stick. Fultura inferior (juxta) broad and non-specialized. Aedeagus short, stout, without conspicuous features. Vesica globular or lobate, sometimes tubular and curved (*Poliobrya*), with a more or less strong cornutus. Junction of vesica to sinus penis with numerous fine, spine-like sclerotized protuberances.

FEMALE GENITALIA: Poorly known. Usually weakly sclerotized, stereotypic. However, even some closely related species can be separated by the characteristics of the female genitalia.

The imagos of all species appear in August or September, in some cases in early October. It appears that most species are rather local, although in some rocky habitats they may be more common. The females of many species are unknown. Most probably they are poorly attracted to light, but some may even be flightless.

Subgenera of *Victrix* STAUDINGER, 1879

According to an unpublished list of Palaearctic Noctuidae Trifinae by BOURSIN, dated 1970, the genus contains 15 described species, a further three

belong to the subgenus *Poliobrya*, and a new species of *Victrix* s. str. is described in this paper. The species belong to four groups, which may be interpreted as subgenera :

Subgenus *Victrix* STAUDINGER, 1879
karsiana STAUDINGER, 1879
karsiana lithoxys **ssp. n.**
gracilis (WAGNER, 1931) **stat. rev.**
agenjoi (FERNANDEZ, 1931)
artaxias **sp. n.**

Subgenus *Moureia* ORFILA & ROSSI, 1956 **stat. n.**
microglossa (RAMBUR, 1858)

Subgenus *Christophia* **subgen. n.**
conspersa (CHRISTOPH, 1893)

In addition, the subgenus contains at least a dozen closely related species which will be revised in the second part of this series.

Subgenus *Poliobrya* HAMPSON, 1908, **stat. n.**
patula (PÜNGELER, 1907)
umovii (EVERSMANN, 1846)
fabiani **sp. n.**

Subgenus *Victrix* STAUDINGER, 1879

Type species : *Victrix karsiana* STAUDINGER, 1879 by original designation.

DIAGNOSIS (Plate I, Figs. 1-10) : Medium-sized, or small species, but including the largest members of the genus. Forewings broad, triangular, apex slightly pointed. Antennae of male bipectinate, ciliate in one species (*artaxias*) ; proboscis greatly reduced, usually absent. Forewings more or less strikingly marked, hindwings pure white, sometimes with greyish terminal shade, or greyish-white with silky sheen.

MALE GENITALIA : Rounded distal end of valvae, characteristic shape of basal structure of harpe (Figs. 1, 4-7, 9, 11, 13) and spiny collar of vesica (Figs. 2-3, 10, 12, 14).

FEMALE GENITALIA : Ovipositor short and broad ; ostial plate large, rounded ; ductus bursae long, weakly sclerotized (Fig. 8).

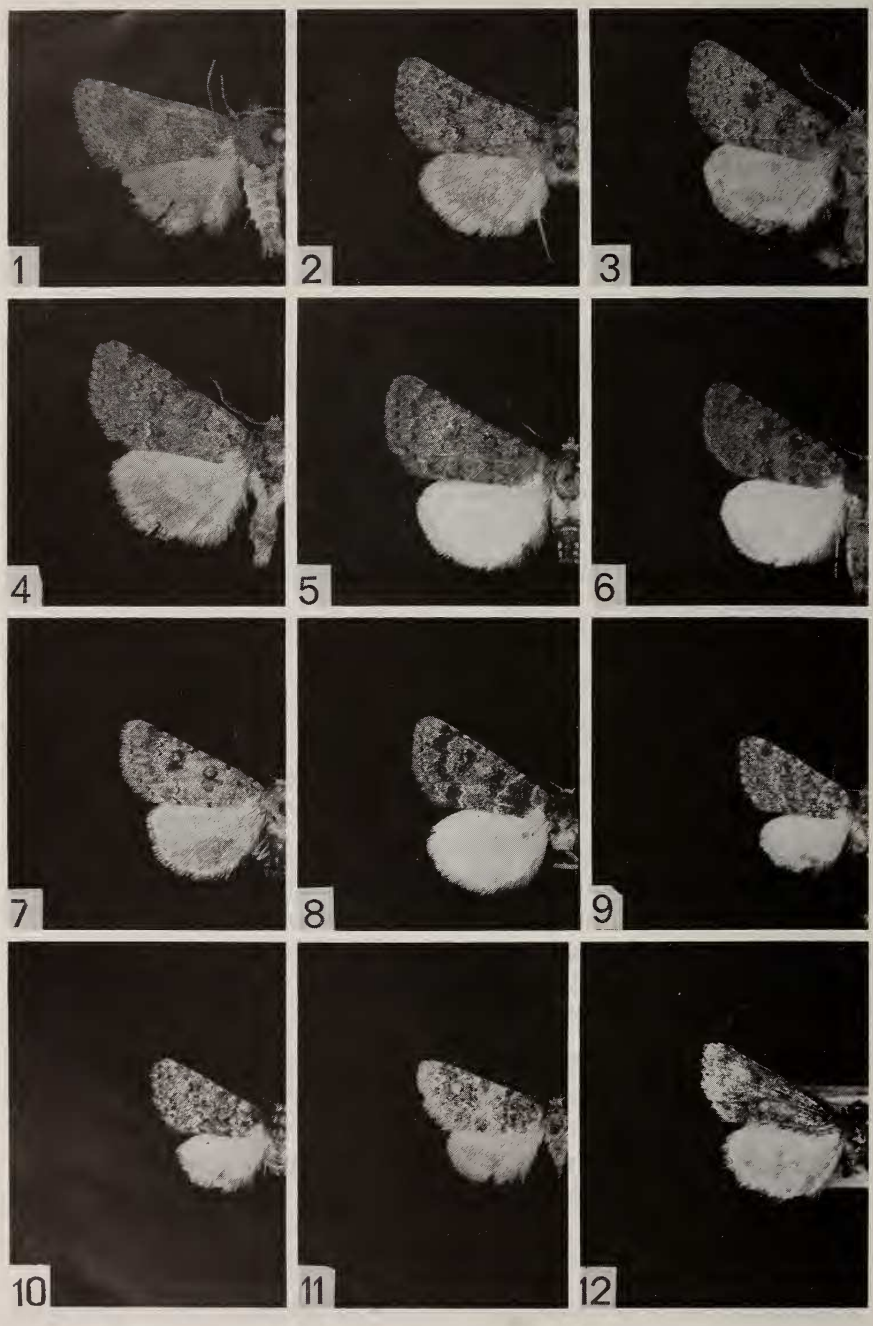


Plate I. Males of the genus *Victrix*. 1. *V. k. karsiana* STAUDINGER, holotype, Kars ; 2. *idem*, Armenia, Sevan ; 3. *idem*, Armenia, Gokht ; 4. *idem*, Armenia, Geghard. 5. *V. k. lithoxys* ssp. n., holotype, Kizilcahamam ; 6. *idem*, paratype, Kizilcahamam. 7. *V. gracilis* WAGNER, Turkey, Tuz Göllü ; 8. *idem*, Turkey, Tuz Göllü. 9. *V. artaxias* sp. n., paratype, Armenia, Geghard ; 10. *idem*, paratype, Armenia, Geghard. 11. *V. conspersa* CHRISTOPH, paratype of *V. forsteri* BRANDT, Iran. 12. *V. fabiani* sp. n., holotype, Mongolia.

Subgenus *Moureia* Orfila and Rossi, 1956, stat. n.

Type species : *Poecilia microglossa* Rambur, 1856.
Cat. syst. lepid. Andalousie pl. 7, figs. 1, 2 ; pl. 22, figs. 1, 2. By original designation.

The main characteristic features of this subgenus can be found in the male genitalia : Harpe large, broad at base, falcate ; valva apex rounded ; cornutus absent (Figs. 15-16).

Subgenus *Christophia* subgen. n.

Type species : *Bryophila conspersa* Christoph, 1893, Dt. ent. Z. Iris 6 : 89. Syn. : *Victrix forsteri* Brandt, 1941 (Boursin, 1961).

Diagnosis : Usually of small size with *Cryphia*-like (Plate I, Fig. 11) appearance. Forewing elongate triangle-like, apex finely pointed. Hindwing rounded and small. Pattern of forewing often diffuse with strong greenish-yellow irroration. Hindwing practically never pure white, mostly greyish or greyish-brown.

Male genitalia (Figs. 17-20) : Harpe long, straight or falcate, with "walking-stick-like" basal structure. Distal end of valva pointed or finely dentate. Collar of vesica finely granulate, without strongly developed spines.

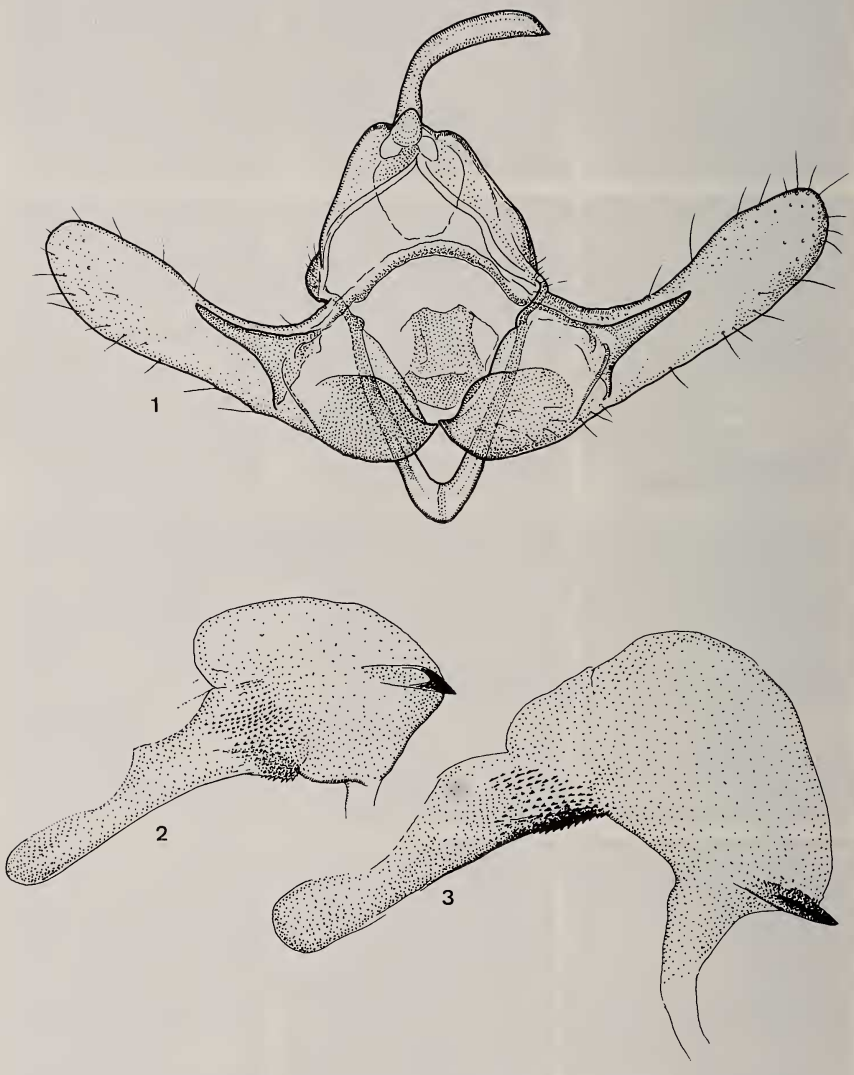
Female genitalia : Ovipositor long and slender, ostium elongate.

Subgenus *Poliobrya* Hampson, 1908, stat. n.

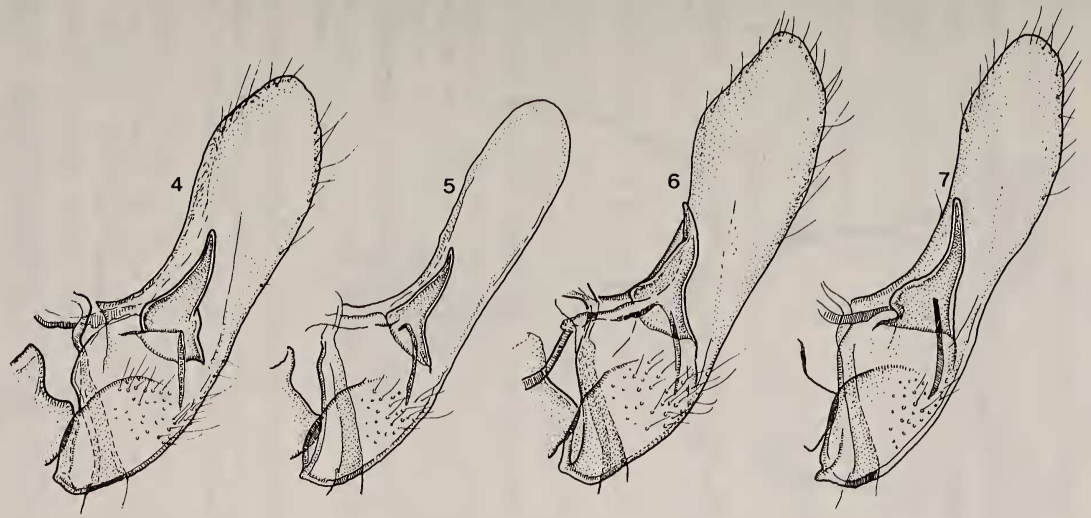
Type species *Bryophila patula* Püngeler, 1907. Dt. ent. Z. Iris 19 : 216-226, by original designation.

This subgenus was described as a distinct genus for the species of medium size, with a reduced proboscis and relatively strongly developed dorsal crests on the first abdominal segments.

Male genitalia (Figs. 21-24) : Strongly simplified, more or less narrow and elongate, apex rounded with long bill-like process near apex on ventral margin. Harpe entirely absent, uncus short. Aedeagus long and cylindrical, vesica elongate or recurved, tubular, with weakly sclerotized cornutus sometimes situated on small diverticulum.



Figs. 1-3. *Victrix* (*Victrix*) *k. karsiana* STGR, male genitalia. 1. Holotype, Kars, Slide 3114 VARGA ; 2. *idem*, aedeagus ; 3. Geghard, Armenia. Slide 3525 VARGA, aedeagus.



Figs. 4-7. *Victrix* (*Victrix*) *k. karsiana* STGR, valvae. 4. Sevan, Armenia. Slide 782 RONKAY ; 5. Aragats Mts., Armenia. Slide 835 RONKAY ; 6. Gokht, Armenia. Slide 1192 RONKAY ; 7. Gokht, Armenia. Slide 1190 RONKAY.

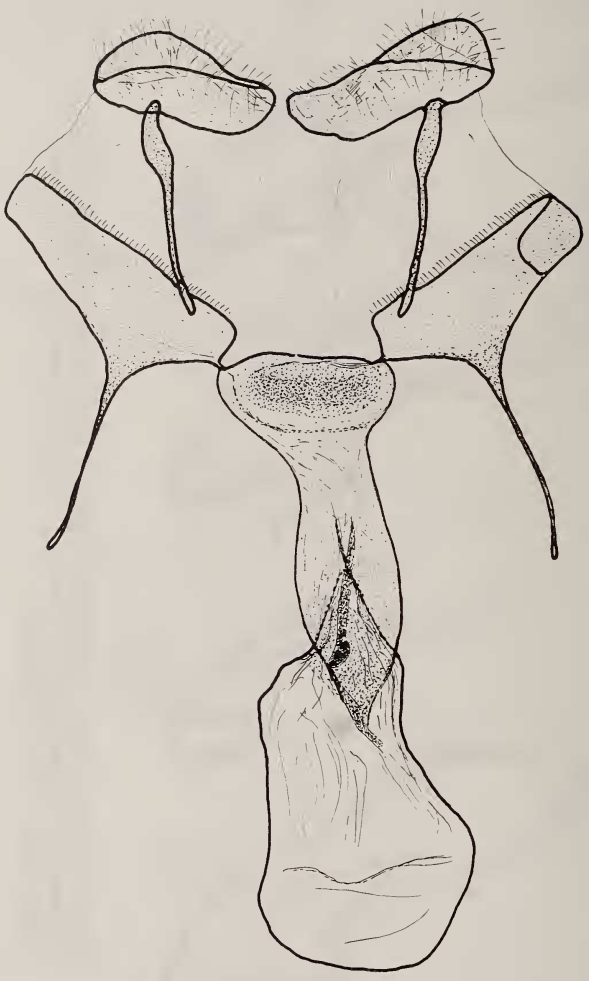


Fig. 8. *Victrix* (*Victrix*) *karsiana lithoxys* ssp. n., female genitalia. Paratype, C. Turkey. Slide 2172 RONKAY.

The description of new taxa and redescription of some poorly known species

Victrix karsiana karsiana STAUDINGER, 1879

HOLOTYPE : Male, "Kars", "Kol. Vel. Kn. Nikolaya MIKHAILOVITSA" (in Russian). Slide No. 3114 VARGA.

This species was described on the basis of a single male collected near Kars, N.E. Turkey. This specimen was deposited in the collection of the Prince Regent Nikolay MIKHAILOVITS ; it is now preserved in the collection of the Zoological Institute, USSR Academy of Sciences, Leningrad.

Additional material examined : **Armenian SSR** : 18 males, Yerevan, ca. 1300 m ; 8 males, Geghard, 1700 m, 3-11.9.1975, leg. VARTIAN ; 6 males Geghard, 29.9.1983, leg. VARGA ; 2 males Gokht, 1500 m, 16.9.1983, leg. VARGA ; 4 males, Ashtarak, 900 m, 26.9.1983, leg. VARGA ; 1 male, Mts. Aragats, Antarut, 1956 m, 21.9.1982, leg. MERKL and RONKAY ; 1 male, Sevan, near Lake Sevan, 2000 m, 29.9.1982, leg. MERKL and RONKAY. Slide Nos. 782, 835, 1161, 1189, 1191, 1192, 1194 (RONKAY) and 3247, 3248, 3249 (VARGA). **N.E. Turkey** : Kars, Göle, in coll. HACKER.

DESCRIPTION (Plate I, Figs. 1-4) : Average wing expanse 31 mm (holotype : 30 mm), forewing length 14.5 mm (13.5-16 mm). Head and thorax greenish-grey, antennae finely bipectinate, proboscis absent. Abdomen and legs whitish-grey, tarsi with dark brown annuli. Ground colour of forewing ochreous-grey with diffuse, darker grey irroration. Orbicular and reniform spots large, more or less rounded, margins not well defined. Claviform spot short, quadrangular. Transverse lines double, pale, partly filled whitish. Cilia with dark spots at tips of veins. Hindwing white with some terminal greyish scales, discal spot obsolete.

The large series studied shows a considerable range of variation. Specimens from higher altitudes are larger, the wings broader with more contrasting markings ; terminal suffusion of hindwing sometimes more marked.

MALE GENITALIA (Figs. 1-7) : Uncus moderately long, thick and falcate, tegumen wide and relatively short. Fultura inferior subtriangular, angles more or less rounded. Vinculum short and V-shaped. Valva elongate, distally dilate, apically rounded, corona absent. Harpe wide at base, apically usually finely curved, tip slightly pointed. Sacculus short and weakly sclerotized, clavus absent. Aedeagus relatively short, distally thicker, vesica semiglobular with a spiny collar at distal end of aedeagus and a more or less long and pointed cornutus. Shape of valva and harpe, and length of cornutus strongly variable.

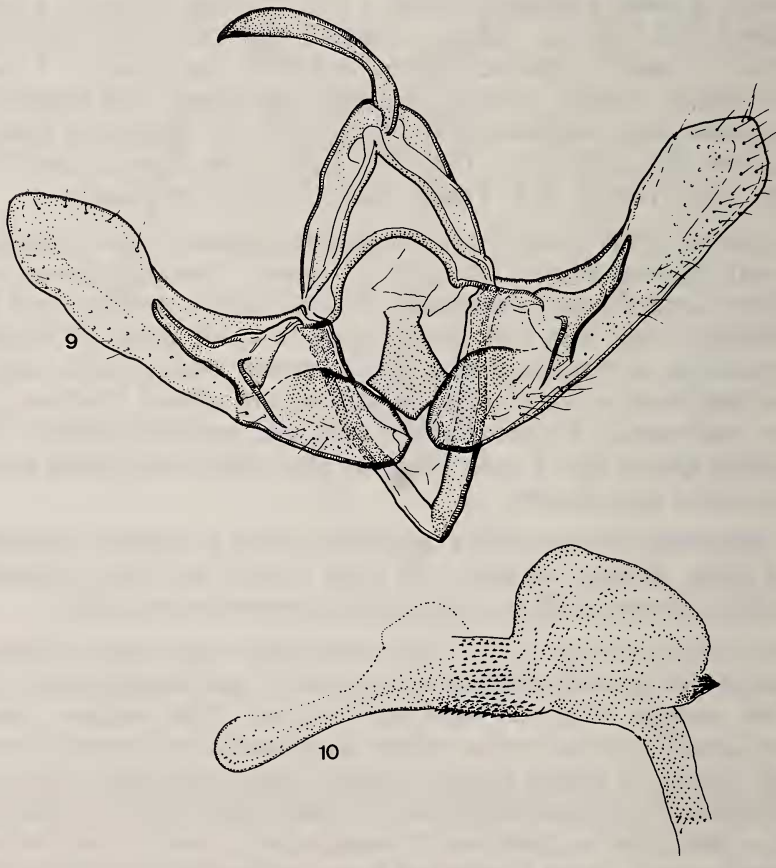
FEMALE GENITALIA : The female is unknown.

The nominate race of this species is distributed in N.E. Turkey and in the Armenian SSR of the Soviet Union.

***Victrix karsiana lithoxys* ssp. n.** (Plate I, Figs. 5-6)

HOLOTYPE : Male, "Asia min., Kizilcahamam, Cam Koru, 1400 m, 25-27.8.1971, FRIEDEL leg.", slide No. 3243 VARGA, deposited in coll. Zoologische Staatssammlung, Munich (ZSM).

PARATYPES : 11 males with the same data (coll. ZSM and Hungarian Natural History Museum Budapest (HNHM) ; 3 males from the same locality,



Figs. 9-10. *Victrix* (*Victrix*) *karsiana lithoxys* ssp. n., male genitalia. 9. Paratype, Kizilcahamam. Slide 2860 VARGA ; 10. Paratype, Kizilcahamam. Slide 4226 VARGA, aedeagus.

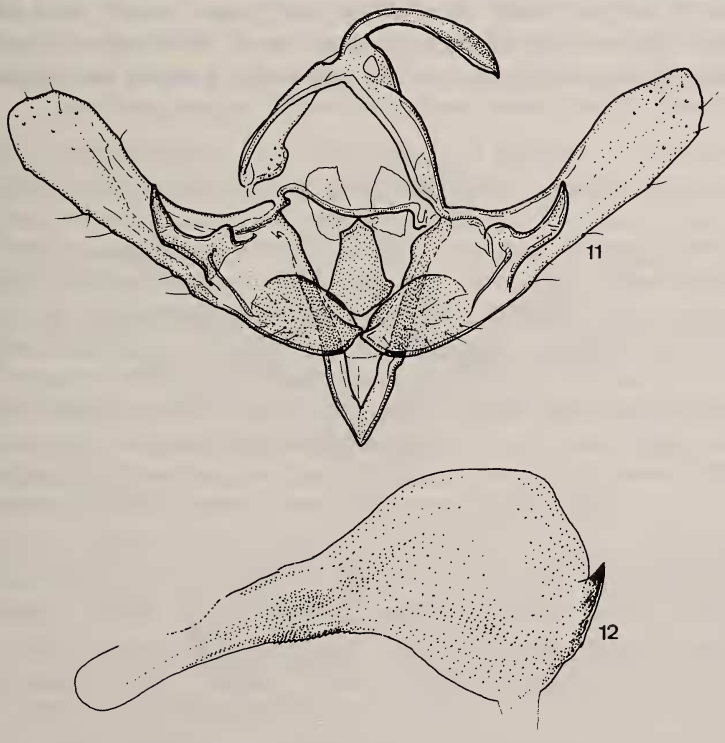
6.9.1967, leg. et coll. VARTIAN ; c. 60 males and 1 female, C. Turkey, vic. Kizilcahaman, 9.1986, leg. et coll. MOBERG. Slide Nos. Va 136 BOURSIN ; 3244, 4226, 4227 VARGA (males), 2172 RONKAY (female).

The size and markings are similar to the nominate race, the differential characters are as follows : the ground colour of forewing reddish- or purple-grey, marked grey or olive-grey, the dark irroration less strong. Apex of forewing more pointed. Hindwing purer white, without greyish terminal suffusion ; dark terminal line present.

MALE GENITALIA (Figs. 9-10) : Valvae more elongate, harpe more straight and slender, cornutus much shorter.

FEMALE GENITALIA (Fig. 8) : As for subgenus.

The new subspecies has an allopatric distribution with that of the nominate race, and according to recent data there is a wide zone in E. Anatolia where the species is absent.



Figs. 11-12. *Victrix* (*Victrix*) *gracilis* WAGNER, male genitalia. 11. Tuz Göllü. Slide 2864 VARGA ; 12. Neotype, Tuz Göllü. Slide 3525 VARGA, aedeagus.

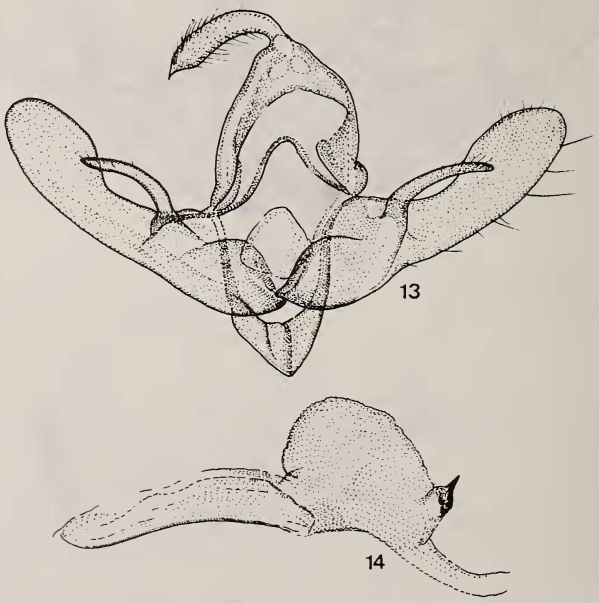
Victrix gracilis (WAGNER, **1931) stat. rev.** (Plate 1, Figs. 7-8)

Amelina gracilis WAGNER, 1931, Int. ent. Z., 25 : 369.

As the original type (♂, C. Turkey, Akshehir, 15.IX. ; leg. WAGNER) is probably destroyed (at one time in coll. DRAUDT, but cannot be found in the Natural History Museum, Vienna), the designation of a neotype is necessary :

NEOTYPE : Male, "Asia min., Tuz Göllü, N-Ufer, 4-10.9.1971, FRIEDEL leg.", slide No. 3525 VARGA, deposited in coll. ZSM. The neotype was selected from a series of 13 males which agree well with the original description, and which were identified as "*gracilis*" by BOURSIN.

DESCRIPTION : Alar expanse 28-31 mm., length of forewing 13.5-14.5 mm. Head and thorax ochreous with some darker grey scales, proboscis very short but present, weakly sclerotized. Ground colour of forewing ochreous- or pale reddish-grey, marked greyish. Transverse lines sinuous or serrate with more or less strong dark grey shading and a fine whitish line ; sometimes dark shading very intensive and extensive (Plate I, Fig. 8).Orbicular spot round, reniform elliptic, usually filled darker than ground colour. Cilia as ground colour of wing, terminal line visible as row of dark spots or short arches. Hindwing pure white with very fine silky sheen, terminal line pale ochreous. Underside of both wings nearly pure white, without markings.



Figs. 13-14. *Victrix* (*Victrix*) *artaxias* sp. n., male genitalia. 13. Paratype, Geghard, Armenia. Slide 3544 VARGA ; 14. Geghard, Armenia. Slide 3257 VARGA aedeagus.

Male genitalia (Figs. 11-12) : Uncus moderately long and thick, tegumen wide and low, less sclerotized. Fultura inferior subtriangular, vinculum v-shaped. Valva elongate, distally dilate, apex rounded, corona absent. Harpe curved, relatively short, swollen at base. Aedeagus short, cylindrical, distally broader, vesica globular with spiny collar and a narrow cornutus.

Female genitalia : The female is unknown.

This interesting and local species differs from *V. karsiana* by its smaller size, more distinctly marked forewing, absence of markings on the underside, and the shorter, curved harpe. It occurs in E. Anatolia and may be sympatric with *V. karsiana.*

***Victrix artaxias* sp. n.** (Plate I, Figs. 9-10)

Holotype : Male, "Armenia, Geghard, 1700 m, 3-11.9.1975, leg. et coll. Vartian".

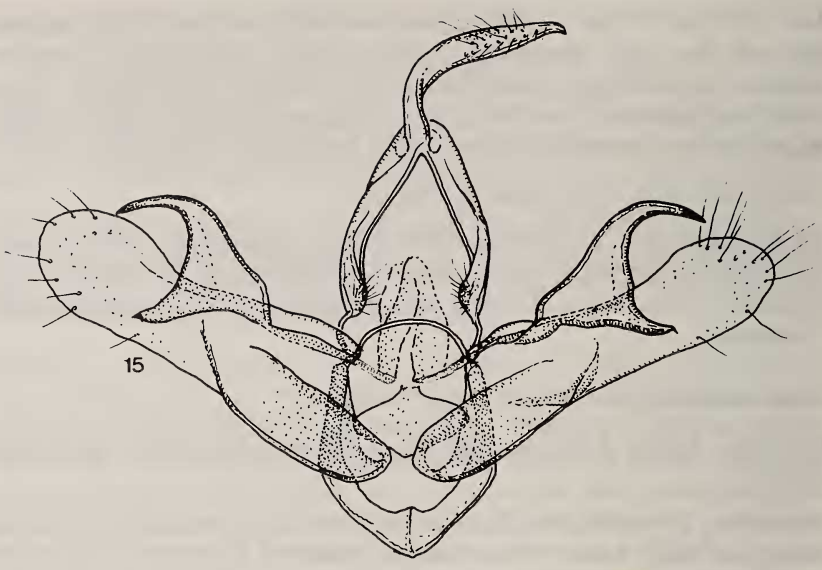
Paratypes : 11 males from same locality and data (in coll. Vartian and Varga) ; 1 male, Turkey, Prov. Tunçeli, Pülümür, 20.IX.1981, leg. Gross and Kuhna ; 1 male, Turkey, Prov. Agri, Cumaçay, 26.IX.1981, leg. Gross and Kuhna (in coll. Hacker). Slide Nos. 2388 Hacker ; 2862, 3257, 3544 Varga.

Description : Alar expanse 24-26 mm, length of forewing 11-12.5 mm. Head and thorax light yellowish-grey with darker hairs and scales. Antennae finely ciliate, proboscis short and weakly sclerotized. Ground colour of forewing light yellowish-grey with dense dark irroration. Markings diffuse, grey, transverse lines sinuous, partly obsolete, sometimes more sharply defined by fine ochreous shadows on both sides. Orbicular and reniform spots diffuse, not outlined. Claviform spot a dark grey, triangular mark. Cilia greyish, chequered with darker grey-brown. Terminal line visible as row of black spots. Hindwing white, discal spot absent or very pale, marginal area with scarce greyish suffusion, terminal line a row of dark grey spots, cilia white. Underside of forewing pale grey, no markings except for some darker grey irroration, hindwing white, discal spot more or less visible.

Male genitalia (Figs. 13-14) : Uncus short and thick, tegumen moderately wide, fultura inferior a more or less rounded plate, vinculum v-shaped, short. Valva elongate, distally strongly dilated, apically rounded ; corona absent. Sacculus short and broad, clavus absent, harpe long and slender, slightly falcate. Aedeagus slightly arcuate, vesica semiglobular with a short, spiny cornutus rising from a flattened sclerotized lamina.

Female genitalia : The female is unknown.

This species is derived from Artaxias, the hellenistic name of the famous



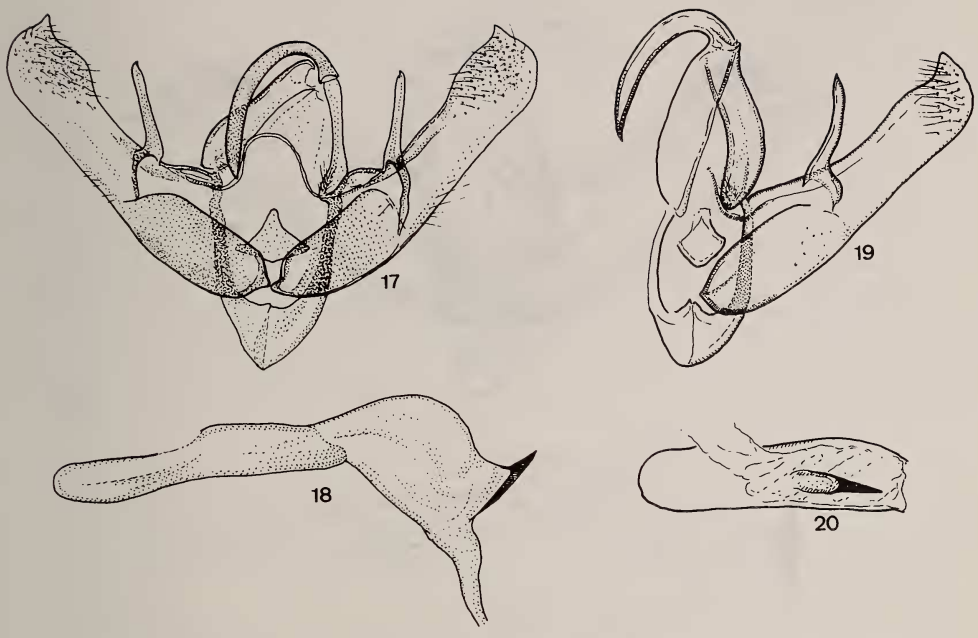
Figs. 15-16. *Victrix* (*Moureia*) *microglossa* RAMBUR, male genitalia, Spain. Slide 1077 RONKAY.

Armenian king, ARTASHES I, the founder of the United Armenian Kingdom in the 2nd century.

The new species resembles species of the subgenus *Christophia*, but the characteristics of the male genitalia evidently show that *artaxias* is a member of *Victrix* s. str. It is only known to occur in a small area of N.E. Turkey and Armenia. It seems to be a very local and rare species having a short flight period. The type material, consisting of fresh specimens, was taken during the first half of September. In two separate years, it could not be found during the second half of the month.

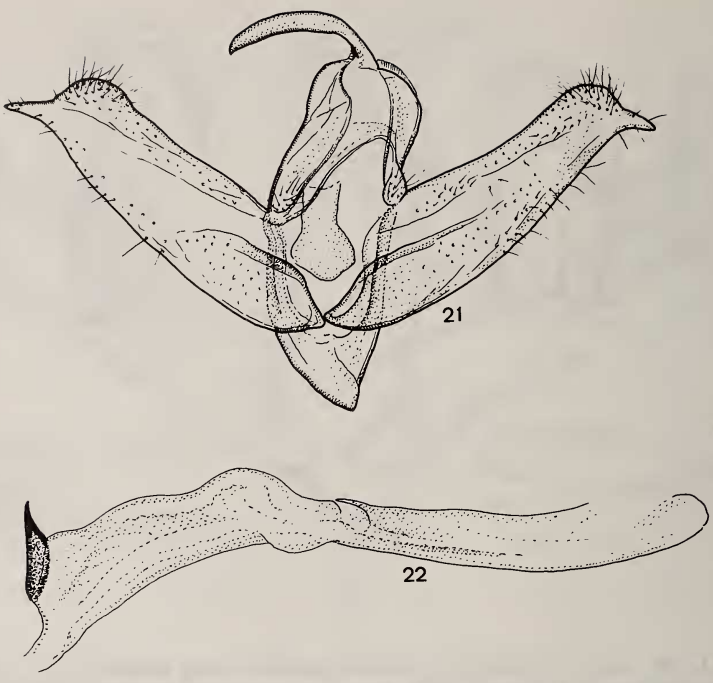
Victrix (*Poliobrya*) *fabiani* **sp. n.** (Plate I, Fig. 12)

HOLOTYPE: Male, "Mongolia, 106°57'E., 47°50'N., Central aimak, Bogdo-Uul Mts., Baga tenger valley, 8 km S.E. from Ulaanbaatar Airport, 1700 m", "09.07.1986, leg. Gy. FÁBIÁN, M. HREBLAY, L. PEREGOVITS and G. RONKAY". Slide No. 2045 RONKAY, deposited in coll. HNHM, Budapest.



Figs. 17-20. *Victrix* (*Christophia*) *conspersa* CHRISTOPH, male genitalia. 17-18. Paratype of *V. forsteri* BRANDT, Iran. Slide 4229 VARGA ; 19-20. Syntype of *conspersa*, Askhabad. Genitalia affixed to paper label with sugar.

DESCRIPTION : Alar expanse 27 mm, length of forewing 14 mm. Head and thorax greyish-brown, antennae very finely ciliate, palpi reduced to a short rudiment. Abdomen ochreous with small, dark dorsal tufts of hair. Forewing narrow and elongate, apex finely acute and pointed. Ground colour of forewing ochreous-brown, strongly irrorated with darker grey and blackish-brown. Markings very diffuse, transverse lines represented by discontinuous stripes, basal field strongly covered with dark scales. Median field lighter, tinged brownish-bronze, darker only on costa and inner margin. Orbicular and reniform spots large, dark brown with diffuse margins, their outlines absent. Row of distinct dark brown spots at subterminal line. Hindwing pale ochreous-grey, discal spot, two diffuse and sinuous transverse lines, and part of basal area darker greyish. Terminal line dark brown, cilia lighter with brownish inner line. Underside of forewing pale ochreous grey, inner part from base to subterminal line intensely irrorated dark grey ; orbicular, reniform spots and lower part of post-medial line darker. Underside of hindwing ochreous-grey, veins marked darker grey, discal spot and transverse lines dark, well discernible, not double as on upperside.



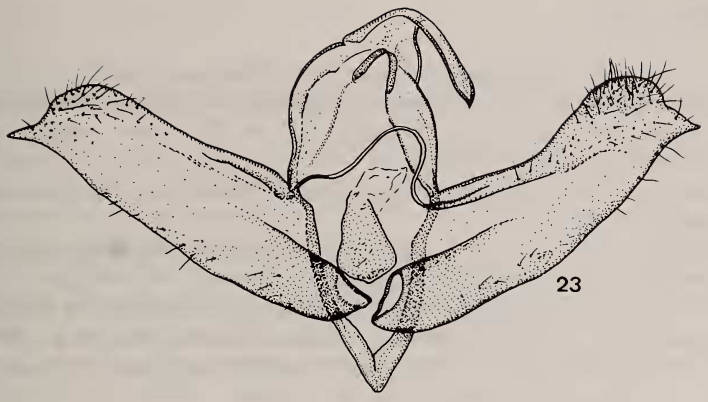
Figs. 21-22. *Victrix* (*Poliobrya*) *fabiani* sp. n., male genitalia, holotype, Mongolia. Slide 2045 RONKAY.

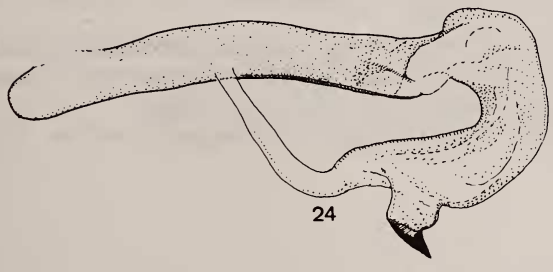
MALE GENITALIA (Figs. 21-22) : Uncus relatively short and thick, apex pointed. Tegumen narrow and moderately high, vinculum strong, v-shaped. Fultura inferior rounded with funnel-like apical part. Valva elongate, apically narrower, apex rounded and strongly hairy with long pointed, bill-like subapical extension ventrally. Sacculus strong, harpe entirely reduced, pulvillus short, fine. Aedeagus long and narrow, vesica elongate with terminal, long and pointed scaphoid cornutus.

FEMALE GENITALIA : The female is unknown.

The new species is dedicated to Gy. FÁBIÁN, who took part in the expedition which discovered this interesting species.

V. fabiani differs from the related species *V. umovii* and *V. patula* by its quite different colouration, wing shape and pattern, which are more similar to the species of *Victrix* s. str., and certain characters in the male genitalia. In *V. fabiani*, the valvae are more elongate, apically narrower, the apical extension is longer and more prominent than in *V. umovii* (Figs. 23-24) or *V. patula*. Compared to *V. umovii*, the vesica of *V. fabiani* is wider, not recurved, and





Figs. 23-24. *Victrix* (*Poliobrya*) *umovii* EVERSMANN, male genitalia, Denmark. Slide 2128 RONKAY.

the cornutus is more robust, with a wider and shorter diverticulum. The differences between the male genitalia of the three related species are slight, but characteristic. This is presumably the reason for *V. patula* having been considered as a subspecies of *V. umovii* by BOURSIN.

The new species occurs in an area intermediate between the Chinese oreal species *V. patula*, and the much more widely distributed *V. umovii*, which is N. European/W. Asian.

Acknowledgments

We would like to express our thanks to Mrs. E. VARTIAN (Vienna), Dr. W. DIERL (Munich), G. EBERT (Karlsruhe), Prof. Dr. H.-J. HANNEMANN (Berlin), H. HACKER (Staffelstein), A. MOBERG (Stockholm), M. FIBIGER (Sorø), Dr. V. I. KUZNETSOV (Leningrad) and Dr. I. L. SUKHAREVA (Leningrad) for their kind help in our studies. We are also indebted to S. E. WHITEBREAD (Magden) for help in preparation of the manuscript.

References

Boursin, Ch., 1961. Ergebnisse der Deutschen Afghanistan-Expedition 1956 der Landessammlungen für Naturkunde Karlsruhe. Noctuidae Trifinae (Lep.) (Beiträge zur Kenntnis der Noctuidae-Trifinae III). *Beitr. naturk. Forsch. SW-Deutschl.* 19 (3) : 373-398.

Christoph, H., 1893. Lepidoptera nova Faunae Palaearcticae. *Dt. ent. Z. Iris*, Dresden, 6 : 86-98.

Fernandez, A., 1931. Un nuevo género de la subfamilia Amphipyrinae y otras novedadas lepidopterológicas ibéricas. *Eos*, Madrid, 7 : 211-222.

Hampson, G. F., 1908. Catalogue of the Lepidoptera Phalaenae in the British Museum, Vol. VII. British Museum (Natural History), London, p. 709.

Orfila, R. N. & Rossi, N. H., 1956. Nuevos nombres genéricos en Lepidoptera. *Rev. soc. ent. argent.*, Buenos Aires, 19 : 27-29.

Püngeler, R., 1907. Neue paläarktische Macrolepidopteren. *Dt. ent. Z. Iris*, Dresden, 19 : 216-226.

Staudinger, O., 1879. In Romanoff : Quelques observations sur les Lepidoptères de la partie du Haut-Plateau Arménien, comprise entre Alexandropol, Kars et Erzouroum. *Horae soc. ent. Ross.*, 14 : 483-495.

Wagner, F., 1931. Neue Heterocera aus Kleinasien. *Int. ent. Z.*, Guben, 25 : 367-371.